

I claim:

1. A method of treating tinnitus, the method comprising:  
implanting a catheter having a proximal end and a distal end, the distal end adapted to infuse a drug formulation intrathecally into a patient's cerebrospinal fluid, the drug formulation comprising at least one therapeutic agent and a solvent; and  
infusing the drug formulation through the distal end of the catheter.
2. The method of claim 1, wherein the solvent comprises sterile water.
3. The method of claim 1, wherein the solvent comprises 0.9% saline solution.
4. The method of claim 1, wherein the solvent comprises an effective amount of NaCl to make the drug formulation isotonic.
5. The method of claim 1, wherein the drug formulation has a pH between 4 and 9.
6. The method of claim 1, wherein the drug formulation has a pH between 5 and 7.
7. The method of claim 1, wherein the drug formulation is substantially free of preservatives.
8. The method of claim 1, wherein the drug formulation comprises cyclodextrin.
9. The method of claim 1, wherein the at least one therapeutic agent comprises a GABA<sub>B</sub> agonist.
10. The method of claim 9, wherein the GABA<sub>B</sub> agonist comprises baclofen.
11. The method of claim 10, wherein the baclofen has a concentration between 10 and 4000 mcg/ml.

12. The method of claim 10, wherein the baclofen has a concentration between 50 and 2000 mcg/ml.
13. The method of claim 10, wherein the baclofen has a concentration between 1000 and 4000 mcg/ml.
14. The method of claim 10, wherein the infusing baclofen comprises a daily dose between 20 and 2000 mcg.
15. The method of claim 10, wherein the infusing baclofen comprises a daily dose between 50 and 1500 mcg.
16. The method of claim 10, wherein the infusing baclofen comprises a daily dose between 100 and 1000 mcg.
17. The method of claim 1, wherein the at least one therapeutic agent comprises gabapentin.
18. The method of claim 1, wherein the at least one therapeutic agent comprises a thyrotropin-releasing hormone.
19. The method of claim 1, wherein the at least one therapeutic agent comprises sodium valproate.
20. The method of claim 1, wherein the at least one therapeutic agent comprises a GABA<sub>A</sub> agonist.
21. The method of claim 1, wherein the GABA<sub>A</sub> agonist comprises benzodiazepine.
22. The method of claim 21, wherein benzodiazepine comprises midazolam.

23. The method of claim 21, wherein benzodiazepine comprises alprazolam.
24. The method of claim 1, wherein the distal end of the catheter is placed in subarachnoid space between fifth thoracic and first cervical vertebrae.
25. The method of claim 1, wherein the distal end of the catheter is placed in subarachnoid space between fifth lumbar and fifth thoracic vertebrae.
26. A method of treating tinnitus using gabapentin, the method comprising:  
implanting a catheter having a proximal end coupled to a pump and a distal end inserted into the subarachnoid space of a patients spinal column; and  
operating the pump to deliver a fluid comprising gabapentin directly into the cerebrospinal fluid contained in the subarachnoid space of the patient's spinal column.
27. The method of claim 26, wherein the pumped fluid has a gabapentin concentration between 0.1 and 100 mg/ml.
28. The method of claim 26, wherein the pumped fluid has a gabapentin concentration between 1 and 90 mg/ml.
29. The method of claim 26, wherein the pumped fluid has a gabapentin concentration between 1 and 80 mg/ml.
30. The method of claim 26, wherein the gabapentin delivered comprises a daily dose between 1 and 200 mg.
31. The method of claim 26, wherein the gabapentin delivered comprises a daily dose between 1 and 150 mg.
32. The method of claim 26, wherein the gabapentin delivered comprises a daily dose between 2 and 60 mg.

33. The method of claim 26, wherein the distal end of the catheter is placed in the subarachnoid space between fifth thoracic and first cervical vertebrae.
34. The method of claim 26, wherein the distal end of the catheter is placed in the subarachnoid space between fifth lumbar and fifth thoracic vertebrae.
35. The method of claim 26, wherein the pumped fluid also comprises a solvent.
36. The method of claim 35, wherein the solvent comprises sterile water.
37. The method of claim 35, wherein the solvent comprises 0.9% saline solution.
38. The method of claim 35, wherein the solvent comprises an effective amount of NaCl to make the drug formulation isotonic.
39. A method of treating tinnitus using a thyrotropin-releasing hormone, the method comprising:
  - implanting a catheter having a proximal end coupled to a pump and a distal end inserted into the subarachnoid space of a patients spinal column; and
  - operating the pump to deliver a fluid comprising the thyrotropin-releasing hormone directly into the cerebrospinal fluid contained in the subarachnoid space of the patient's spinal column.
40. The method of claim 39, wherein the distal end of the catheter is placed in the subarachnoid space between fifth thoracic and first cervical vertebrae.
41. The method of claim 39, wherein the distal end of the catheter is placed in the subarachnoid space between fifth lumbar and fifth thoracic vertebrae.
42. The method of claim 39, wherein the pumped fluid also comprises a solvent.
43. The method of claim 42, wherein the solvent comprises sterile water.

44. The method of claim 42, wherein the solvent comprises 0.9% saline solution.
45. The method of claim 42, wherein the solvent comprises an effective amount of NaCl to make the drug formulation isotonic.
46. A method of treating tinnitus using sodium valproate, the method comprising:  
implanting a catheter having a proximal end coupled to a pump and a distal end inserted into the subarachnoid space of a patients spinal column; and  
operating the pump to deliver a fluid comprising sodium valproate directly into the cerebrospinal fluid contained in the subarachnoid space of the patient's spinal column.
47. The method of claim 46, wherein the distal end of the catheter is placed in the subarachnoid space between fifth thoracic and first cervical vertebrae.
48. The method of claim 46, wherein the distal end of the catheter is placed in the subarachnoid space between fifth lumbar and fifth thoracic vertebrae.
49. The method of claim 46, wherein the pumped fluid also comprises a solvent.
50. The method of claim 49, wherein the solvent comprises sterile water.
51. The method of claim 49, wherein the solvent comprises 0.9% saline solution.
52. The method of claim 49, wherein the solvent comprises an effective amount of NaCl to make the drug formulation isotonic.